Climate Change and Human Health Literature Portal

National Institute of
Environmental Health Sciences

Past, present, and future climate at select INDEPTH member Health and Demographic Surveillance Systems in Africa and Asia

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Abstract:

BACKGROUND: Climate and weather affect human health directly and indirectly. There is a renewed interest in various aspects of environmental health as our understanding of ongoing climate change improves. In particular, today, the health effects in low- and middle-income countries (LMICs) are not well understood. Many computer models predict some of the biggest changes in places where people are equipped with minimal resources to combat the effects of a changing environment, particularly with regard to human health. OBJECTIVE: This article documents the observed and projected climate profiles of select sites within the International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH) network of Health and Demographic Surveillance System sites in Africa and Asia to support the integration of climate research with health practice and policy. DESIGN: The climatology of four meteorological stations representative of a suite of INDEPTH Health and Demographic Surveillance Systems (HDSSs) was assessed using daily data of 10 years. Historical and future trends were analyzed using reanalysis products and global climate model projections. RESULTS: The climate characteristics of the HDSS sites investigated suggest vulnerability to different environmental stressors, and the changes expected over the next century are far greater in magnitude than those observed at many of the INDEPTH member sites. CONCLUSIONS: The magnitude of potential future climate changes in the LMICs highlights the need for improvements in collaborative climate-health research in these countries. Climate data resources are available to support such research efforts. The INDEPTH studies presented in this supplement are the first attempt to assess and document associations of climatic factors with mortality at the HDSSs.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3508753

Resource Description

Climate Scenario : ⊠

specification of climate scenario (set of assumptions about future states related to climate)

 Special Report on Emissions Scenarios (SRES)

  Special Report on Emissions Scenarios (SRES) Scenario: SRES A1, SRES A2, SRES B1, SRES B2

Exposure : ⊠

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Temperature

Extreme Weather Event: Drought, Flooding

Temperature: Extreme Heat, Fluctuations

Geographic Feature: ☒

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☒

resource focuses on specific location

Global or Unspecified

Health Impact: ☒

specification of health effect or disease related to climate change exposure

General Health Impact

Model/Methodology: ☒

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Long-Term (>50 years)